

District-Wise Analysis of Health Resources, Health Outputs, and Family Welfare Measures in the State of Haryana

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Abstract: This paper attempted to examine Health Resources, Health Outputs, and Family Welfare Measures in the State of Haryana and presented an Inter-District comparison. For analysis, District-wise data have been collected from the Statistical Abstract of Haryana for the year 2015-16. The indicators under the heads were selected based on the availability of data. Findings concluded large amount of disparities. Panchkula, Kurukshetra, Kaithal, and Nuh Districts have only one hospital; whereas, Yamunanagar, Karnal, Panipat, Sonapat, Faridabad, Rewari, and Mahendragarh have two hospitals. It is the District Bhiwani which is equipped with largest number of hospitals, PHCs, and SCs. Panipat and Faridabad have one CHC, and Kaithal and Mahendragarh have no dispensary facility. Medical officers, staff nurses, and midwives/ANMs are mostly available in Jhajjar, Hisar, and Bhiwani respectively. Again Bhiwani District has largest number of Ayurvedic institutions and indoor patients treated are also highest in Bhiwani. However, treatment of outdoor patients occurred highly in Hisar. Availability of beds is also largest in Bhiwani and Hisar. Also, Hisar District is ahead in performing tubectomies and total sterilization operations, and Karnal and Gurugram are leading Districts in vasectomies form of sterilization operation and IUD insertions respectively. Faridabad has achieved first rank in doing highest number of equivalent sterilizations and also has largest number of conversational contraceptives users. Gurugram possess largest number of oral pill users. Based upon the findings, implications are discussed.

1. INTRODUCTION

'Management of Healthcare' has remained a matter of huge debate and discussions around the globe. Health is an important ingredient for human resource development; since, healthy human resources are able to serve the society and contribute in economic development. Therefore, every nation wants to provide good health to its citizens. Health is also one of the human rights; likewise, Universal healthcare is the priority of every Central and State Government (Rao 2004). For this purpose, the role of health sector is recognized all over the world. Moreover, to achieve Sustainable

Development Goals (2015-2030), World Health Organization also stressed on the provision of better health infrastructural facilities in terms of health institutions including hospitals, health centres, expert doctors, paramedical staff, beds in health institutions etcetera (**Gautam and Sharma 2015; Goswami 2016**). Health outcomes like life expectancy, crude birth and death rates, infant mortality rate, eradication of dangerous diseases like malaria, leprosy, small pox, polio, tuberculosis and so forth are also greatly influenced by the availability of health infrastructure (**Subba Lakshmi and Sahoo 2013**). In this line, Government of Haryana has also developed health resources since its inception as a separate Indian State in 1966. But without balanced growth of health facilities in each region, positive health outcomes cannot be attained in any economy including Haryana. Besides, the sudden outbreak of COVID-19 pandemic has raised the question of adequacy and efficiency of health facilities (**Tejaswi 2020**). Keeping with this backdrop, the present study is undertaken to examine the inter-district disparities in health resources, outputs, and family welfare measures in the State of Haryana so that Government and policy makers can get a cue to turn their eyes towards this problem.

The rest of the study is organized as follows: Section 2 highlights literature review; Section 3 is devoted to research methodology; Section 4 makes a data analysis, and last Section 5 concludes the study with implications.

2. REVIEW OF LITERATURE

It has been defined in Introduction that this paper talks about the inter-district disparities; hence, those studies have been reviewed here which incorporated the aspect of disparities in health resources, infrastructure, facilities etc.

Ghatak and Das (2012) concluded that health care system in the District of Birbhum of West Bengal was found far from the level of satisfaction, especially from the infrastructural point of view. Lack of this infrastructural facility, lead to inconsistency in the development of basic health care system as well as in overall development of the society. It was further seen that discrepancies existed both in spatial and temporal scale.

Gupta (2012) examined the degree of health inequalities across Districts of urban Uttar Pradesh by applying the principal component analysis, and found the existence of wide regional disparities regarding health of urban population. The study concluded that the Western region of the State was the leading region in urban health; though its performance was poor regarding illness, and maternal and child health. Further, Eastern region

performed poor in case of socio-economic development; but, other health indicators were revealing the success of this region.

Jawed Akhtar and Abdul Azeez (2012) analyzed the rural health care system and health infrastructure in India. It was inferred that health care services in rural areas were provided through Sub-centres (SC), Primary Health centres (PHC), and Community Health centres (CHC). These three types of medical institutions were serving in each part of the country and have increased significantly over the years. However, the problems were occurring due to lack of specialist doctors in rural areas. So, there was a need to fill all the vacant posts of doctors and other medical staff to ensure good healthcare.

Panmei (2013) judged the spatial disparities of health care facilities in the State of Manipur. The study revealed that the better development of health care facilities mostly concentrated in the valley areas, where there was high accessibility level, better road connectivity and better socio-economic status. However, most of the hill Districts were devoid of such facilities. Comparing valley and hill Districts, the health care facilities were not the same as far as the quality and the order of services were concerned. Also, it was stated that although, considerable growth in health care facilities had been recorded yet, the uneven distribution and non-functioning of health centres in some Districts resulted in disparities in the spatial distribution of healthcare facilities.

Sheet and Roy (2013) studied the regional disparities in health care infrastructure in nineteen blocks of Birbhum District (West Bengal). They constructed the deprivation and development index for each block on the basis of eight indicators of health care infrastructure. It was concluded that the blocks of Sainthia, Bolpur-Santiniketan and Labpur were more developed with respect to health care infrastructure. On the other side, blocks including Nalhati-I, Suri-I, Mayureshwar-I and II were less developed. Hence, the need of adequate planning was stressed to equally develop health care infrastructure.

Garg and Gupta (2015) attempted to examine the inter-district disparities in health infrastructure in Haryana with the help of ten indicators. Analysis confirmed the gaps in the availability of health facilities in various Districts of Haryana and highlighted that in most of the Districts, the ratios of health infrastructural indicators including doctors, nurses, beds, hospitals, Primary health centres, Community health centres, dispensary to population were insignificant and exploring wide imbalances. Finally, the deprivation as well as development indices of health infrastructure revealed the discrepancies in Districts with regard to health infrastructural development.

Goswami (2016) stressed on the need of good performance of publicly funded health institutions to make Indian healthcare system aseffective, efficient, and affordable. The author said that it was urgent to improve public health facilities of safe drinking water and sanitation. Moreover, to make demographic dividend favorable for Indian economy, a need for higher public spending in the social sector was stressed, especially in the key areas of education, health, and sanitation.

Rani (2017) analyzed the status of health infrastructure in rural areas of India. The researcher found that there were 24194 vacant and shortfall of 4679 positions respectively of female health workers at sub-centres; 1013 and 11299 positions were vacant and shortage in case of female health assistance at primary health centres (PHCs); 8774 seats were vacant for doctors at PHCs and 1811 positions were vacant for surgeons. The study suggested that Government needed to do justice with budgetary allocations to provide better health infrastructure in quantitative and qualitative terms.

Pandey (2017) examined the importance of AYUSH (abbreviation of Ayurveda, Yoga, Unani, Siddha and Homoeopathy) system of health care as a complementary of allopathic health care system, and found that India had highest number of practitioners as well as users of AYUSH health care. He concluded that the planned, meaningful and phased integration of AYUSH with modern medicines has helped in meeting the challenges of shortage of health care professionals in allopathic health care and in strengthening the health care services in rural India.

A Literature comprehension reveals that disparities in health infrastructure and resources have been studied at different levels; but, District-Wise analysis of any State has not been investigated yet. Accordingly, this paper fulfills this gaps; and likewise, next section depicts the objectives and methodology used in this paper.

3. OBJECTIVES AND RESEARCH METHODOLOGY

This paper aims to analyze the inter-district disparities in health resources, health outputs, and family welfare methods in the State of Haryana, based on which implications will be provided for the health sector.

It is entirely based on secondary data which is collected from the Statistical Abstract of Haryana 2015-2016 published by Department of Economic and Statistical Analysis, Government of Haryana. To achieve the objective, District-wise data on various indicators of Health and Family welfare are undertaken based upon the availability of data. The collected data are presented in suitable tables. Besides, descriptive statistics in terms

of mean, standard deviation (SD) and coefficient of variation ($CV=SD/\text{mean} \times 100$) are computed using Microsoft Excel 2010.

4. ANALYSES AND INTERPRETATIONS

This section is divided into three sub-sections namely, analysis for health resources, analysis for health outputs, and analysis for family welfare measures.

4.1. Analysis of Health Resources

Health Resources are the resources in terms of medical institutions, both allopathic and AYUSH institutions, medical staff in both types of institutions, and number of beds in medical institutions. In order to analyze the health resources in various Districts of Haryana, this section is divided into two parts: health resources at allopathic institutions, and health resources at AYUSH institutions.

4.1.1. Health Resources at Allopathic Institutions

Analysis of Number of Medical Institutions and Availability of Beds

Table 1: District-Wise Number of Medical Institutions and Beds in Allopathic Institutions

Districts	Medical Institutions					Total	Beds Available		
	Hospitals	PHCs	Dispensaries	CHCs	SCs		Male	Female	Total
Ambala	3	19	4	4	101	131	230	255	485
Panchkula	1	10	12	2	51	76	116	149	265
Yamunanagar	2	18	9	4	112	145	248	256	504
Kurukshetra	1	21	1	4	117	144	157	157	314
Kaithal	1	23	0	6	144	174	178	157	335
Karnal	2	26	9	6	150	193	262	237	499
Panipat	2	17	4	1	90	114	142	165	307
Sonapat	2	33	10	8	164	217	181	185	366
Rohtak	3	23	4	7	114	151	163	187	350
Jhajjar	4	26	3	5	126	164	250	264	514
Faridabad	2	10	24	1	57	93	179	202	381
Palwal	1	20	1	3	89	114	90	97	187
Gurugram	5	13	5	2	76	101	233	167	400
Nuh	1	20	1	3	138	163	101	104	205
Rewari	2	17	3	5	112	139	157	164	321
Mahendragarh	2	26	0	5	120	153	170	177	347

contd. table 1

Districts	Medical Institutions					Beds Available			
	Hospitals	PHCs	Dispensaries	CHCs	SCs	Total	Male	Female	Total
Bhiwani	7	40	10	6	220	283	409	419	828
Jind	4	27	5	6	163	205	209	216	425
Hisar	6	36	10	9	200	261	380	313	693
Fatehabad	3	18	2	3	135	161	168	173	341
Sirsa	3	25	8	4	151	191	203	206	409
Total	57	468	125	94	2630	3373	4226	4250	8476
Mean	2.714	22.286	5.952	4.476	125.238	160.619	201.238	202.381	403.619
SD	1.678	7.721	5.590	2.159	42.244	51.971	79.804	72.083	149.790
CV	61.806	34.646	93.911	48.236	33.731	32.356	39.657	35.617	37.112

Source: Statistical Abstract of Haryana 2015-16 and Authors' Calculations

In table 1, descriptive statistics at the bottom shows that on an average, the State of Haryana has approximate 160 medical institutions with a standard deviation of 51.971 and coefficient of variation 32.356 per cent. This shows significant disparities amongst Districts with regard to medical institutions. The status of medical institutions including number of hospitals, primary health centers (PHCs), dispensaries, community health centers (CHCs), and sub-centres (SCs) in various Districts of Haryana are shown. Large number of inequalities in case of medical institutions in various Districts can be noted from the table. It is found that the number of hospital is just one in various Districts including Panchkula, Kurukshetra, Kaithal, and Nuh; whereas, Districts of Yamunanagar, Karnal, Panipat, Sonapat, Faridabad, Rewari, and Mahendragarh have only two hospitals. The highest number of hospitals are found in Bhiwani (N=7), followed by Hisar (N=6) and Gurugram (N=5). From the point of view of PHCs, Bhiwani has highest PHCs that are forty in numbers, while Panchkula has just ten. Unfortunately, Districts including Kaithal and Mahendragarh have no dispensary facility for their population while Faridabad has twenty four dispensaries available. Similarly, there exist wide variations in the availability of CHCs in Districts of Haryana. In this regard, Panipat and Faridabad have just one CHCs whereas Hisar occupy nine CHCs.

In context of number of sub-centres, Bhiwani has first rank with largest number of sub-centres (N=220) followed by Hisar (N=200) and Sonapat (N=164). Lastly, the total medical institutions are large in Bhiwani (N=283), Hisar (N=261) and Sonapat (N=217), while in Panchkula and Faridabad the total number of medical institutions is less than hundred. In this way, inter-district disparities are found to be considerable in all type of medical institutions in Haryana. In this regard, the most of the District-wise

inequalities are found in case of availability of dispensaries for which CV scores 93.911 per cent while lowest variations can be seen in case of number of sub-centers (CV=33.731%). It is also clear from the table that in case of availability of beds, Bhiwani (N=828) and Hisar (N=693) are at first and second place. Difference in the availability of beds may be due to variation in the number of medical institutions in various Districts.

Analysis of Number of Medical Staff

After noting the availability of medical institutions, the next importance is given to the number of medical staff available in medical institutions (table 2). Concerning a mean value of 189.667, it can be said that approximate 190 Midwives/ANMs are appointed in medical institutions. However, coefficient of variation point up their unequal dispersal in Districts of the State. Districts of Bhiwani, Mahendragarh and Hisar are at first, second, and third place respectively in context of availability of total number of medical staff. It is found that medical officers, staff nurse, and midwives/ANMs in highest number are available in Jhajjar, Hisar, and Bhiwani respectively. Also, there exist large inequalities in the presence of Technicians, Dispensers/Pharmacists and ministerial staff in various Districts. Presently, there are only ten dais in Haryana which are available in Jind (N=8) and Kaithal (N=2) District. However, class IV and other staff are highest in number in Bhiwani. Due to the statistical value of CV, inter-district disparities cannot be ignored.

Table 2: District-wise Medical Staff in Allopathic Medical Institutions in Haryana

Districts	Medical Officers	Staff Nurse	Midwife/ANMS	Technicians/Laboratory Assistants	Dispensers/Pharmacists	Ministerial Staff	Dais Nurses	Class IV Staff	Others
Ambala	123	86	97	33	32	86	—	110	32
Panchkula	119	83	67	38	56	39	—	—	32
Yamunanagar	72	54	66	32	19	54	—	—	20
Kurukshetra	65	71	100	32	34	62	—	52	25
Kaithal	60	60	184	33	24	55	2	72	16
Karnal	82	84	191	54	38	89	—	66	40
Panipat	77	55	200	31	24	44	—	47	17
Sonapat	100	118	374	60	54	84	—	120	39
Rohtak	124	113	289	39	47	79	—	80	49
Jhajjar	127	70	243	31	42	59	—	11	36

contd. table 2

Districts	Medical Officers	Staff Nurse	Midwife/ ANMS	Technicians/ Laboratory Assistants	Dispensers/ Pharmacists	Ministerial Staff	Dais Nurses	Class IV Staff	Others
Faridabad	46	24	92	16	24	66	—	44	28
Palwal	67	15	100	11	15	34	—	53	18
Gurugram	113	70	131	12	28	70	—	58	37
Nuh	52	6	41	2	10	29	—	—	14
Rewari	76	46	210	22	22	41	—	69	26
Mahendragarh	95	15	242	13	24	80	—	—	36
Bhiwani	89	139	449	35	42	102	—	166	63
Jind	77	85	320	43	41	86	8	115	43
Hisar	104	145	322	46	41	100	—	135	51
Fatehabad	49	68	125	24	24	43	—	57	18
Sirsa	105	71	140	15	26	64	—	—	31
Total	1822	1478	3983	622	667	1366	10	1255	671
Mean	86.762	70.381	189.667	29.619	31.762	65.048	Descriptive Statistics have not been calculated here due to missing data		31.952
SD	25.834	37.952	111.462	14.790	12.450	21.864			12.932
CV	29.776	53.924	58.767	49.934	39.196	33.613			40.474

Source: Statistical Abstract of Haryana 2015-16 and Authors' Calculations

4.1.2. Analysis of Health Resources at AYUSH Institutions

Solely allopathic health care services are not sufficient for the population. Thus not substitute but a complementary of allopathic medical care, the importance of AYUSH (Ayurveda, Yoga, Unani, Siddha, and Homoeopathy) services cannot be ignored. In this regard, India is a country having highest number of practitioners as well as users of AYUSH health care. In Haryana, AYUSH system is also providing its health care services. Thus, the status of these institutions is shown in table 3.

Analysis of Number of Health Institutions and Medical Staff

Table 3 shows that numbers of Ayurvedic institutions are more than forty in Bhiwani (N=48) and Hisar (N=45); whereas in Faridabad these are only seven in number. In nine Districts, Unani institutions are available but Homoeopathic institutions are present only in five Districts including Palwal, Gurugram, Faridabad, Rohtak, and Kurukshetra. However, Palwal is the only District having all the three types of institutions. Besides, with

Table 3: District-Wise AYUSH Medical Institutions and Medical Staff

District	Medical Institutions				Medical Staff	
	Ayurvedic	Unani	Homoeopathic	Others	Vaidyas/Hakims/ Homeopathic Doctors	Dispenser/ Compounders
Ambala	15	1	—	12	14	8
Panchkula	15	—	—	11	18	10
Yamunanagar	16	3	—	11	17	14
Kurukshetra	13	—	1	12	17	21
Kaithal	20	1	—	12	23	18
Karnal	25	2	—	14	24	20
Panipat	15	—	—	11	11	15
Sonapat	21	2	—	13	22	25
Rohtak	26	—	1	13	30	30
Jhajjar	28	1	—	11	24	24
Faridabad	7	—	2	11	8	4
Palwal	13	3	8	10	12	6
Gurugram	12	—	7	11	16	19
Nuh	15	4	—	10	16	10
Rewari	18	1	—	9	19	14
Mahendragarh	25	—	—	12	20	9
Bhiwani	48	—	—	12	40	37
Jind	27	—	—	12	26	32
Hisar	45	—	—	13	34	33
Fatehabad	18	—	—	7	13	9
Sirsa	36	—	—	11	24	12
Total	458	18	19	238	428	370
Mean	21.810	Descriptive Statistics have not been calculated here due to missing data		11.333	20.381	17.619
SD	10.610			1.528	7.807	9.563
CV	48.646			13.478	38.305	54.275

Source: Statistical Abstract of Haryana 2015-16 and Authors' Calculations

regard to medical personnel, Bhiwani has highest number of vaidyas/hakims/homoeopathic-doctors and dispensers/compounders. The inter-district imbalances are vast in all cases as the value of CV indicates.

4.2. Analysis of Health Outputs

Health outputs are analyzed in terms of patients treated both in allopathic institutions and AYUSH institutions, and types of attention at Birth.

4.2.1. Patients Treated

Table 4: District-Wise Statistics for Patients Treated

Districts	Patients Treated			
	Allopathic Institutions		AYUSH Institutions	
	Indoor	Outdoor	Total	Total
Ambala	42678	812165	854843	73356
Panchkula	41399	930118	971517	77794
Yamunanagar	47144	810157	857301	111119
Kurukshetra	38236	689642	727878	66476
Kaithal	43381	781370	824715	104129
Karnal	60811	1048330	1109441	108815
Panipat	35116	592317	627433	74395
Sonipat	42714	775465	818179	118496
Rohtak	26461	757503	783964	141540
Jhajjar	33607	718280	751887	135764
Faridabad	56351	851719	908070	37209
Palwal	31532	453595	485127	98071
Gurugram	46976	1028088	1075064	292652
Nuh	30761	356719	387480	76114
Rewari	28963	576366	605329	60720
Mahendragarh	37670	625028	662698	59599
Bhiwani	67949	1068146	1136095	193124
Jind	38979	830196	869175	114228
Hisar	63533	1310601	1374134	156685
Fatehabad	43305	626112	669417	54028
Sirsa	41311	634622	675633	28947
Total	898877	16276539	17175380	2183261
Mean	42803.667	775073.286	817875.238	103964.810
SD	11285.150	220621.960	229842.001	59276.502
CV	26.365	28.465	28.102	57.016

Source: Statistical Abstract of Haryana 2015-16 and Authors' Calculations

Considering allopathic institutions, more numbers of outdoor patients received treatment ($N=16276539 > N=898877$). It can be seen that more than ten lakh patients including indoor as well as outdoor are treated in Hisar, Bhiwani, Karnal, and Gurugram Districts. But in Bhiwani, the indoor patients are treated in highest number; whereas, in Hisar, the largest number of outdoor patients received medical treatment. With regard to AYUSH institutions, Gurugram is the District which treated highest number of patients.

4.2.2. Analysis of Type of Attention at Birth

Table 5: District-Wise Type of Attention at Birth

Districts	Government Institutions	Private Institutions	Doctor/Nurse/Dai	Traditional Birth Attendants	Relatives or Other
Ambala	11021	7766	444	279	25
Panchkula	9692	2880	476	9	109
Yamunanagar	9860	10788	2199	864	6
Kurukshetra	8749	10060	1769	686	77
Kaithal	10464	8204	3131	943	39
Karnal	15941	10241	1723	1747	381
Panipat	14453	11468	2092	926	326
Sonipat	19500	8922	1984	584	156
Rohtak	16025	8279	1644	560	173
Jhajjar	10822	3751	1418	146	4
Faridabad	21938	21464	3531	2154	2354
Palwal	10109	6572	6545	2820	135
Gurugram	14337	18021	4893	448	179
Nuh	10905	3911	961	253	209
Rewari	8541	9022	416	143	15
Mahendragarh	18517	5557	17789	2166	18
Bhiwani	12535	12662	2631	230	55
Jind	12160	8800	2212	407	362
Hisar	13770	19746	5377	1695	855
Fatehabad	9553	7966	2622	519	53
Sirsa	14496	8272	1932	297	64
Total	273388	204352	65789	17876	5595
Mean	13018.476	9731.048	3132.810	851.238	266.429
SD	3718.171	4895.512	3716.239	792.810	516.858
CV	28.561	50.308	118.623	93.136	193.995

Source: Statistical Abstract of Haryana 2015-16 and Authors' Calculations

Table 5 highlights that type of attention at birth is highest in Government Institutions in comparison with its counterparts, as the mean value for this column is highest (mean=13018.476). In various types of attention at birth the traditional methods and relatives and others are less in use. Attention at birth by Government institutions is highest except the Districts of Yamuna Nagar, Kurukshetra, and Rewari; because in these three Districts largest number of birth are attended by private institutions. Generally, in case of birth attentions, Government institutions, private institutions, and doctors/nurses/dais occupy first, second, and third place respectively. But Mahendragarh is the sole District where after Government institutions, the

second highest birth attentions are given by doctors/nurses/dais. However, birth attentions by relatives or others are found to be highest in Faridabad (N=2354) and lowest in Jhajjar (N=4). And number of births attended by traditional birth attendants are found largest in Palwal (N=2820) followed by Mahendragarh (N=2166) and Faridabad (N=2154). In this way, the inter-district variations are very clear in the use of types of birth attention methods.

4.3. Analysis of Family Welfare Methods

Table 6: District-Wise Family Welfare Methods and Equivalent Sterilization

Districts	Vasec- tomies	Tubec- tomies	Total Steriliza- tion	IUD Insertion	Conversa- tional Contrace- ptives Users	Oral Pill Users	Equivalent Steriliza- tion
Ambala	128	2738	2866	11952	1169953	52853	77698
Panchkula	70	2309	2379	6616	530030	24164	36715
Yamunanagar	230	1612	1842	9828	590442	35427	41857
Kurukshetra	313	1745	2058	9597	926441	43076	61512
Kaithal	335	2746	3081	12555	742747	31159	51992
Karnal	927	2605	3532	13129	1223525	62538	82831
Panipat	128	2039	2167	15064	1074299	86569	76490
Sonipat	121	3824	3945	13307	850582	42741	60384
Rohtak	34	2926	2960	12276	1257110	48653	82297
Jhajjar	57	2347	2404	9563	450248	31346	34088
Faridabad	56	3391	3447	14536	1460147	83504	98690
Palwal	22	2535	2557	8136	532096	26053	37725
Gurugram	117	2640	2757	19746	1234371	99652	88988
Nuh	16	641	657	1745	271066	21778	18718
Rewari	274	3214	3488	7485	1105994	46188	72559
Mahendragarh	134	2363	2497	10295	789633	38668	54094
Bhiwani	96	5791	5887	15071	861357	52080	64551
Jind	192	3701	3893	11088	678306	40187	49738
Hisar	50	9328	9378	14792	776390	53705	63409
Fatehabad	103	4474	4577	6050	524806	32083	39314
Sirsa	36	4263	4299	10666	745043	46836	54450
Total	3439	67232	70671	233497	17794586	999260	1248100
Mean	163.762	3201.524	3365.286	11118.905	847361.238	47583.810	59433.333
SD	198.374	1789.657	1767.547	3917.478	314794.474	20750.197	20655.173
CV	121.135	55.900	52.523	35.233	37.150	43.608	34.754

Source: Statistical Abstract of Haryana 2015-16 and Authors' Calculations

Table 6 explores that the highest number of tubectomies (N=9328) and total sterilization operations (N=9378) are done in Hisar. While in Nuh 641 tubectomies and 657 total sterilization operations are performed. In case of vasectomies form of sterilization operation, Karnal is at first place by doing 927 operations whereas Nuh at last place with just 16 operations. In Gurugram, the 19746 IUD insertions are performed which are highest; but, in Nuh IUD insertions are just 1745. Besides, Faridabad achieved first rank in doing highest number of equivalent sterilizations and has largest number of Conversational Contraceptives Users. District of Gurugram has near about one lakh oral pill users where as in Nuh the number is just 21778. Hence, in case of achievement of family welfare methods including equivalent sterilizations, wide disparities among Districts exists.

Now, after summarizing the overall analysis, next section presents conclusion and implications.

5. CONCLUSION AND IMPLICATIONS

5.1. Conclusion

All in all, it can be seen that there is existence of disparities in health facilities, due to which different number of patients get treatment. The differences may also due to difference in population size or the preference of people towards Government health facilities. It is seen that some Districts have large number of patients treated, may be because, middle class and poor people prefer Government hospitals and health centres as these have expertise and are cost effective too.

Districts including Panchkula, Kurukshetra, Kaithal, and Nuh have one hospital each; whereas, Yamunanagar, Karnal, Panipat, Sonipat, Faridabad, Rewari, and Mahendragarh have only two hospitals. Bhiwani is equipped with highest number of hospitals, PHCs, and SCs. Unfortunately, Kaithal and Mahendragarh have no dispensary facility while Panipat and Faridabad have one CHC. In case of the availability of total number of medical staff, Districts of Bhiwani, Mahendragarh and Hisar are at first, second, and third place respectively. Medical officers, staff nurses, and midwives/ANMs in highest number are existing in Jhajjar, Hisar, and Bhiwani respectively. The District of Bhiwani has largest number of Ayurvedic institutions and medical staff including vaidyas/hakims/homoeopathic doctors and dispensers/compounders.

Patients treated are highest in Bhiwani (indoor) and Hisar (outdoor). Again availability of beds is largest in Bhiwani and Hisar. Preference for Attention at birth by Government institutions, private institutions and

doctors/nurses/dais occupy first, second, and third place respectively in all Districts except Mahendragarh.

District of Hisar is ahead in performing tubectomies and total sterilization operations, and Karnal and Gurugram are leading Districts in vasectomies form of sterilization operation and IUD insertions respectively. Faridabad have achieved first rank in doing highest number of equivalent sterilizations and also have largest number of conversational contraceptives users, while Gurugram possess largest number of oral pill users.

5.2. Implications

The regional disparities may be obvious because of size of population, density, requirement, area of District; but, major regional disparities may lead to regional imbalance. So, here some implications have been drawn from the findings. On the basis of above findings it can be said that, there is an urgent need to improve the availability of health infrastructure in terms of medical institutions and their staff as well as beds in various Districts. The Districts having just one or two hospitals, and one CHCs require more number of hospitals as well as CHCs as these are most commonly availed by poor and middle class people. Similarly increase in number of medical officers, nurses, and other staff is required in most of the Districts especially in Fatehabad, Faridabad, and Nuh. Moreover, it is also necessary to increase the number of beds in Nuh and Palwal Districts. Besides, Faridabad also requires more number of Ayurvedic medical institutions and their staff. The need to provide the awareness about use of expertise attentions at birth time, family planning, and related matters in various Districts cannot be ignored as the traditional birth attendant methods are still in practice and sterilization operations are very less performed. Moreover, in the present time of COVID pandemic when the situations are alarming; the paper highlights for an urgent need in the improvements and enhancements of health resources and facilities in the state of Haryana, and proper allocation of health resources.

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